**SECTION VI: MANAGEMENT PLAN**

The management plan is structured to assure that all activities are completed and the objectives of the project are met on a timely basis within the budget. Dr. Kathy Chandler, Dean of the College of Education, will serve as the Project Administrator of the project and devote 10% of her time on the project. Her responsibilities will include making changes and implementing the recommendations of the external advisory committee to all GREAT MINDS coordinators, approval of budgetary matters, site visits related to activities, facilitating resources and infrastructure related improvements, and monitoring the overall projects. Dr. Rene Rogers will serve as Project Director. She will coordinate all activities with the activities of the college and departments. Day-to-day operation and management of the program will be the responsibility of the Project Director. Dr. Laurie Fowler will serve as the International Consortium Coordinator; Dr. Erica King will serve as Recruitment Coordinator; and Dr. B.J. Kimbrough will serve as Professional Development Coordinator. The primary role of the Advisory Committee is to provide advice to the Project Administrator, Project Director, and Project Coordinators in the development, implementation, and evaluation of the Project. The External Advisory Council will be a diverse group representative of all stakeholders committed to the project including representatives from UWA, STEM Faculty, Partnership Schools, Businesses and Industries, Presidential Awardees, and International Connections.

The Advisory Council will meet twice in the first year and once a year there after to advise the Project Director and Project Coordinators on recruitment, effective operation of relevant student activities, faculty and student development, and international relations. In the first year of the award, the Committee will be convened shortly after the award notification is received and again at the end of the first Project year. The Committee will meet at least annually thereafter. The organizational chart below illustrates the structure for GREAT MINDS:

Each goal will be managed on a daily basis by the Project Director. The responsibility of the director is to facilitate the implementation and completion of the activities delineated for each objective in a timely manner and within budget.

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| **Goal 1: Establish an international consortium to identify and discuss best practices in STEM education.** | | | | | |
| **Objectives** | **Responsibilities** | **Timeframe  From To** | | **Milestones** | |
| * 1. To collaborate globally to identify best practices in STEM education | Project Administrator- Kathy Chandler;  Dr. Laurie Fowler; Dr. Rene Rogers |  | | * Create an International STEM consortium with partners in global higher education | |
| * 1. To collaborate with the non- education sector such as government agencies and private industries to identify best practices in STEM education. | Dr. Rene Rogers |  | | * Create an International STEM consortium with partners from the Marshall Space Flight Center and businesses such as Google, Mercedes, etc. | |
| * 1. To collaborate with award winning science and math educators as well as the local P-12 school systems | Dr. Rene Rogers |  | | * Create an in International STEM consortium with partners from the Presidential Award Winners for Excellence in Mathematics and Science Teaching, National Board Certified Teachers, as well as STEM teachers from the local P-12 school systems | |
| **Goal 2: Create innovative STEM curriculum through pre-service and in service teacher training in critical thinking and problem solving.** | | | | | |
| **Objectives** | **Responsibilities** | **Timeframe  From To** | | **Milestones** | |
| 2.1. To provide pre-service teachers with training in a hands-on STEM curriculum and pedagogy which would give them the knowledge of how to employ these strategies in their future classrooms | Dr. Kathy Chandler;  Dr. B.J. Kimbrough  Dr. Rene Rogers |  | | * A STEM (science, technology, engineering, and math) lab (DATA-Lab) will be established for pre-service teachers so that they can participate in hands-on STEM activities during their methods courses. | |
| 2.2. To provide service teachers with professional development where they would learn how to utilize a hands-on STEM curriculum in their classrooms | Dr. Kathy Chandler;  Dr. B.J. Kimbrough  Dr. Rene Rogers |  | | * Local teachers who are already in service will be recruited to participate in a one-week long summer camp for teachers where they would be taught how to employ a STEM curriculum followed by a one-week long opportunity to practice teaching the STEM curriculum to local elementary, middle, and high school students | |
| 2.3. To provide local elementary, middle, and high school students the opportunity make use of critical thinking and problem solving skills | Dr. Kathy Chandler;  Dr. B.J. Kimbrough  Dr. Rene Rogers |  | | * Local elementary, middle, and high school students would be invited to participate in a week long STEM camp during the summer. The camp would be theme-based, integrate all STEM areas, and culminate in an end of the week project. | |
| 2.4. To create a hands-on STEM environment where local students (elementary, middle, and high school) are able to learn STEM through inquiry based activities | Dr. Kathy Chandler; Dr. Laurie Fowler  Dr. B.J. Kimbrough  Dr. Rene Rogers |  | | * A classroom would be converted into a hands-on STEM discovery environment focused on engineering where local school early childhood students would be able to become part of a “Construction Crew”. | |
| **Goal 3: Increase the enrollment and retention of high needs students in undergraduate teacher education programs**. | | | | | |
| **Objectives** | **Responsibilities** | | **Timeframe  From To** | | **Milestones** |
| 3.1. To recruit junior and senior high school students for the teacher education program | Dr. Kathy Chandler;  Dr. Erica King;  Dr. Rene Rogers | |  | | * Junior and senior high school students will be selected for the GREAT MINDS project |
| 3.2. To retain students in the teacher education program until graduation | Dr. Kathy Chandler;  Dr. Erica King;  Dr. Rene Rogers | |  | | * A cohort of (10) first year and (10) second year undergraduate students will become part of the TOTs Club and will progress through the teacher education program together with 10 recruits being added per year |

**Procedures for Feedback and Improvement**

The Project Administrator, Project Director, and Coordinators will begin with a work session to outline the activities to be completed with specific tasks and weekly calendars. The team will meet quarterly throughout the project to discuss progress and identify barriers. The project manager will do monthly evaluations to assure that project is on a timely schedule and provide assistance when needed. During the quarterly meetings, each Coordinator will report progress and revisions will be made as needed. The project is structured to allow the charting of work as it is completed. Realizing that no plan is foolproof, improvements will be made as needed according to the following procedure:

1. Meeting with Project Administrator, Project Director and Coordinators

2. Analysis of areas of concern

3. Restructuring of plan for improvement by Coordinator

4. Approval of Project Manager

5. Approval of Project Administrator.

**SECTION VII: EVALUATION**

GREAT MINDS is designed to improve and enhance the capacity of UWA to increase recruitment, retention rate, and performance of students enrolled STEM/Teacher Education majors. The project is structured around three objectives and each objective is measured qualitatively and quantitatively to ensure maximum assessment. The evaluation of the project will begin when the project starts and will be continuous for the duration of the project. The program evaluation will be continuous, with the Project Director as technical assistant to provide expertise and to assure that the project remains on schedule and that data is collected and interpreted properly. The project will be monitored on a monthly, quarterly, and annual schedule to determine outcomes and areas of needing revision.

Evaluation will determine the following by using both formative and summative methodology: (1) Extent to which the tasks outline in the schedule are completed in a timely manner, (2) Extent to which the objectives have been accomplished, (3) Extent to which the project has met intended purposes and goals of the PBI STEM Project and (4) The extent to which the project has retained internal consistency and integrity.

The formative evaluation is primarily qualitative and analyzes the on-going completion of activities. Summative evaluation involves the compilation of data to determine achievement of the project goals and objectives at the end of the project, including annual and final reports. The proposed evaluation design is a thorough system of monitoring activities and progress based on the management plan and timeline. Data will be collected and maintained from project coordinators with quarterly meetings for the Project Administrator, Project Director, and Project Coordinators. Formative evaluation will monitor whether the project is proceeding according to the timeline, whether the project resources are used effectively, and whether there is proper provision of information for the changes and improvements.

Measures of performance consistent with the outlined goals of the program include overall GPA, number of GREAT MINDS graduates, and number of students advancing to STEM CAREERS and graduate programs. Other descriptive measures include assessment of faculty attitudes toward the program, observations of classroom interaction, and various aspects of the student population such as learner characteristics and attitudes toward the program. The components of the program itself will also provide explanatory information relative to syllabus composition and the generation of scientific inquiry within each programmatic element. Data collection during each phase of the program is needed in order to successfully evaluate the effects of the components of the program. The following table outlines the major goals/objectives, methods of evaluation and outcome measures to be used for evaluating GREAT MINDS.

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| **Goal 1: Establish an international consortium to identify and discuss best practices in STEM education.** | | | | | |
| **Evaluation Plan** | | | | | |
| **Objectives** | **Data Collection Procedures** | **Data Analysis Procedures** | | **Formative/ Summative Results** | |
| 1.1. To collaborate globally to identify best practices in STEM education |  |  | |  | |
| 1.2. To collaborate with the non-education sector such as government agencies and private industries to identify best practices in STEM education. |  |  | |  | |
| 1.3. To collaborate with award winning science and math educators as well as the local P-12 school systems |  |  | |  | |
| **Goal 2: Create innovative STEM curriculum through pre-service and in service teacher training in critical thinking and problem solving.** | | | | | |
| **Objectives** | **Data Collection Procedures** | **Data Analysis Procedures** | | **Formative/ Summative Results** | |
| 2.1. To provide pre-service teachers with training in a hands-on STEM curriculum and pedagogy which would give them the knowledge of how to employ these strategies in their future classrooms |  |  | |  | |
| 2.2. To provide service teachers with professional development where they would learn how to utilize a hands-on STEM curriculum in their classrooms |  |  | |  | |
| 2.3. To provide local elementary, middle, and high school students the opportunity make use of critical thinking and problem solving skills |  |  | |  | |
| 2.4. To create a hands-on STEM environment where local students (elementary, middle, and high school) are able to learn STEM through inquiry based activities |  |  | |  | |
| **Goal 3: Increase the enrollment and retention of high needs students in undergraduate teacher education programs**. | | | | | |
| **Objectives** | **Data Collection Procedures** | | **Data Analysis Procedures** | | **Formative/ Summative Results** |
| 3.1. To recruit junior and senior high school students for the teacher education program |  | |  | |  |
| 3.2. To retain students in the teacher education program until graduation |  | |  | |  |

The final report will be a document comprised of the data collected to determine if GREAT MINDS met the Government Performance and Results Act (GPRA). The final report will be a document comprised of the data collected to determine if GREAT MINDS met the Government Performance and Results Act. The project will document the following performance indicators for the Predominantly Black Institutions Program:

1. Enrollment Rate: Indicator of increase in enrollment of minority, Black-American in STEM/Teacher Education will be maintained.

2. Persistence Rate: The persistence rate of Black American students in the targeted programs will be maintained by tracking system and data base in the Office of Institutional Effectiveness.

3. Four Year Completion Rate: The data will be maintained by the Office of Institutional Effectiveness to determine long-range success of the program.

4. Efficiency Measure: The cost of each objective and outcome will be maintained by the Project Director and Principle Investigator.

The success of the project will be based on the goal of the PBI Program to strengthen the capacity of the institution to serve minority students from low-income, disadvantaged backgrounds in order to improve the quality of educational opportunities. The project will address the goals of the PBI Program to ensure the accessibility, affordability, and accountability of higher education, and better prepare student and adults for employment and future learning. The evaluation procedures are designed to determine the results and success of the goal.